Alaska Department of Fish and Game
Division of Wildlife Conservation
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Population Dynamics of Interior and Southwest Alaska Caribou Herds

Mark A. Keech

Research Performance Report
1 July 2002–30 June 2003
Federal Aid in Wildlife Restoration
Grant W-33-1, Study 3.45

This is a progress report on continuing research. Information may be refined at a later date.

FEDERAL AID
ANNUAL RESEARCH PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

PROJECT TITLE: Population dynamics of Interior and Southwest Alaska caribou herds

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FEDERAL AID GRANT PROGRAM: Wildlife Restoration

GRANT AND SEGMENT NR.: W-33-1

PROJECT NR.: 3.45

WORK LOCATION: Game Management Unit 20A

STATE: Alaska

PERIOD: 1 July 2002–30 June 2003

I PROGRESS ON PROJECT OBJECTIVES

OBJECTIVE 1: Census the Delta Herd annually from 2002 to 2007.

We conducted the Delta Herd photocensus on 24 June 2003, using 5 small, fixed-wing aircraft for searching, and the State of Alaska DeHavilland Beaver with a belly-mounted camera for photographing large groups of caribou. Photos from the 24 June census have not been counted as of this time, but preliminary analysis indicates the Delta Herd population has probably declined by several hundred animals.

OBJECTIVE 2: Determine causes and timing of adult mortality caribou in the Delta Herd.

During this reporting period 9 of 61 radiocollared Delta caribou died, giving an 85% survival rate. The majority of mortality for radiocollared caribou occurred during mid-to-late winter, with wolves being the proximate cause of death for most individuals.

OBJECTIVE 3: Monitor movements, distribution, and dispersal of the Delta Herd.

During this reporting period, we conducted 6 comprehensive radiolocation flights. Movements and distribution of Delta caribou was similar to previous years, with the majority of the herd occupying the northcentral portion of the Alaska Range or the Yanert–upper Wood River valleys, smaller groups of caribou were located along the eastern edge of Unit 20A and in the northern portion of Unit 13E. Most major concentrations of caribou

during the annual photocensus were within the Wood River drainage, with smaller groups in the Yanert River and northern Unit 13E.

OBJECTIVE 4: Determine the natality rate and timing of calf production in the Delta Herd.

Natality rate for collared adult Delta caribou was 69% (35 of 51) in 2003. Timing of calf production was not obtained this reporting period.

OBJECTIVE 5: Determine the natality rate and timing of calf production in the Mulchatna, Nushagak Peninsula, and the Northern and Southern Alaska Peninsula herds.

Natality rate and timing of calf production in the Mulchatna, Nushagak Peninsula, and the Northern Alaska Peninsula herds was determined this reporting period by Department of Fish and Game area offices and federal agency cooperators.

OBJECTIVE 6: Determine recruitment in the Delta Herd, Mulchatna, Nushagak Peninsula, and the Northern and Southern Alaska Peninsula herds.

Composition counts were conducted on the Delta, Mulchatna, Nushagak Peninsula, and the Northern and Southern Alaska Peninsula herds between 28 September 2002 and 16 October 2002.

OBJECTIVE 7: Investigate the presence and role of disease in the Delta, Mulchatna, Nushagak Peninsula, and Northern and Southern Alaska Peninsula herds.

During this reporting period 10 short-yearling caribou were collected from the Mulchatna Herd to necropsy for disease. No caribou were collected for necropsy from the other study herds. All yearling and older caribou that were captured and released in the Delta, Mulchatna, Nushagak Peninsula, and Alaska Peninsula herds for other aspects of this project had blood drawn to scan for diseases and to store for future analysis.

OBJECTIVE 8: Monitor food habits of the Delta, Denali, Mulchatna, Nushagak Peninsula, and the Northern and Southern Alaska Peninsula herds, and periodically monitor winter food habits of other Interior herds.

No fecal samples were taken to monitor food habits of study herds during this reporting period.

OBJECTIVE 9: Monitor body condition and changes in body size and weight in calves and adults, and determine if weight and condition are related to summer and winter weather and recruitment.

During this reporting period 15 four-month-old calves were captured in September 2002 and 15 ten-month-old calves were captured in April 2003 in the Delta Herd to monitor body condition and body size (1 calf died from capture related injuries during the April captures). In May 2003 we attempted to capture newborn caribou calves in the Delta Herd but were unsuccessful in obtaining an adequate sample size. Short-yearling caribou were also captured in the Mulchatna, Nushagak Peninsula, and Alaska Peninsula herds (1 caribou each died during the Mulchatna and Nushagak Peninsula captures).

OBJECTIVE 10: Review literature, prepare annual performance reports, a final report, and manuscripts for publication in refereed literature.

Relevant caribou literature was reviewed this reporting period. No results from this current study were reported or published during this reporting period.

II SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD

JOB 1: Census the Delta Herd annually from 2002 to 2007.

This job was accomplished during the reporting period. Federal Aid funds were used to pay for flight time for 2 charter aircraft used to search for caribou groups. Funds were also used to pay for aviation fuel for 4 State of Alaska fixed-wing aircraft used during the census and to pay for film processing.

JOB 2: Determine causes and timing of mortality adult in the Delta Herd.

This job was accomplished during the reporting period. Federal Aid funds were used to pay for caribou radio collars, capture drugs, and approximately 25 hours flight time of Robinson R-22 and R-44 helicopters used during capture operations and during retrieval of mortalities from the field. Funds were also used to pay for aviation fuel for State of Alaska fixed-wing aircraft used during monitoring and location flights, and to pay salary for Alaska Department of Fish and Game employees.

JOB 3: Monitor movements, distribution, and dispersal of the Delta Herd.

This job was accomplished during the reporting period. Federal Aid funds were used to pay for aviation fuel for State of Alaska fixed-wing aircraft used during 6 comprehensive and several shorter monitoring and location flights, and to pay salary for Alaska Department of Fish and Game employees.

JOB 4: Determine the natality rate and timing of calf production in the Delta Herd.

This job was accomplished during the reporting period. Federal Aid funds were used to pay for aviation fuel for State of Alaska fixed-wing aircraft used during 2 natality flights, and to pay salary for Alaska Department of Fish and Game employees.

JOB 5: Determine the natality rate and timing of calf production in the Mulchatna, Nushagak Peninsula, and the Northern and Southern Alaska Peninsula herds.

This job was accomplished during the reporting period. Federal Aid funds were used to pay for fixed-wing aircraft used during natality flights, and to pay salary for Alaska Department of Fish and Game employees.

JOB 6: Determine recruitment in the Delta Herd, Mulchatna, Nushagak Peninsula, and the Northern and Southern Alaska Peninsula herds.

This job was accomplished during the reporting period. Federal Aid funds were used to pay for approximately 15 hours flight time of Robinson R-22 and R-44 helicopters used during composition counts. Funds were also used to pay for aviation fuel for State of Alaska fixed-

wing aircraft used during location flights, and to pay salary for Alaska Department of Fish and Game employees.

JOB 7: Investigate the presence and role of disease in the Delta, Mulchatna, Nushagak Peninsula, and Northern and Southern Alaska Peninsula herds.

This job was accomplished during the reporting period. Federal Aid funds were used to pay for flight time of Robinson R-22 and R-44 helicopters used during caribou collections and captures. Funds were also used to pay for aviation fuel for State of Alaska fixed-wing aircraft used during location flights, and to pay salary for Alaska Department of Fish and Game employees.

JOB 8: Monitor food habits of the Delta, Denali, Mulchatna, Nushagak Peninsula, and the Northern and Southern Alaska Peninsula herds, and periodically monitor winter food habits of other Interior herds.

This job was not accomplished during the reporting period. Funds that were allocated for this job were used to help pay for determining the natality rate of the Delta Herd.

JOB 9: Monitor body condition and changes in body size and weight in calves and adults, and determine if weight and condition are related to summer and winter weather and recruitment.

This job was accomplished during the reporting period. Federal Aid funds were used to pay for approximately 15 hours flight time of Robinson R-22 and R-44 helicopters used during captures. Funds were also used to pay for capture equipment, capture drugs, and aviation fuel for State of Alaska fixed-wing aircraft used during location flights, and to pay salary for Alaska Department of Fish and Game employees.

JOB 10: Review literature, prepare annual progress reports, a final report, and manuscripts for publication in refereed literature.

This job was accomplished during the reporting period. Federal Aid funds were used to pay salary for Alaska Department of Fish and Game employees.

III ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD

None.

IV PUBLICATIONS (This report is available on the ADF&G website):

P VALKENBURG AND MA KEECH. 2002. Population dynamics of Interior and Southwest Alaska caribou herds. Alaska Department of Fish and Game. Federal Aid in Wildlife Restoration Research Performance Report. Grant W-27-5. Project 3.45. Juneau, Alaska.

V RECOMMENDATIONS FOR THIS PROJECT

None.

VI APPENDIX

None.

VII PROJECT COSTS FOR THIS SEGMENT PERIOD

FEDERAL AID SHARE $48,728+ STATE SHARE $16,243 = TOTAL $64,971

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